Toxicology and Applied Pharmacology

Official Journal of the Society of Toxicology

Editorial Board

Karl F. Benitz
Frank R. Blood
Eldon M. Boyd
Kenneth P. DuBois
John P. Frawley
Seymour L. Friess
Leon Golberg
Ted A. Loomis
Harold N. MacFarland
Gabriel L. Plaa
Robert L. Roudabush
R. Tecwyn Williams

Editor:

C. BOYD SHAFFER

Volume 9, 1966

Academic Press
New York and London

Copyright ©, 1966, by Academic Press Inc.

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means without written permission from the publishers.

MADE IN THE UNITED STATES OF AMERICA

FUMIGATED 1995

67 49968

RA1119
S627
V.9

CONTENTS OF VOLUME 9

NUMBER 1, JULY 1966

JAMES L. GODDARD. Relevant Questions 1

R. L. BARON, J. L. CASTERLINE, JR., AND R. ORZEL. *In Vivo* Effects of Carbamate Insecticides on Mammalian Esterase Enzymes 6

YOSHIMI MISU, TOMIO SEGAWA, ISAMI KURUMA, MICHIO KOJIMA, AND HIROSHI TAKAGI. Subacute Toxicity of *O,O*-Dimethyl *O*-(3-Methyl-4-Nitrophenyl) Phosphorothioate (Sumithion) in the Rat 17

B. CALESNICK, A. WASE, AND L. R. OVERBY. Availability during Human Consumption of the Arsenic in Tissues of Chicks Fed Arsanilic-^{74}As Acid 27

DOMINICK J. TOCCO, CHARLES ROSENBLUM, CHRISTOPHER M. MARTIN, AND HARRY J. ROBINSON. Absorption, Metabolism, and Excretion of Thiabendazole in Man and Laboratory Animals 31

T. BALAZS AND D. KUPFER. Effect of DDT on the Metabolism and Production Rate of Cortisol in the Guinea Pig. 40

JAMES W. NEWBERNE, WILLIAM L. KUHN, AND JOHN R. ELSEA. Toxicologic Studies on Clomiphene 44

J. R. CUMMINGS AND A. N. WELTER. Cardiovascular Studies on Aminocaproic Acid 57

JEAN SICÉ. Tumor-Promoting Activity of *n*-Alkanes and 1-Alkanols 70

A. M. REVZIN. Effects of Endrin on Telencephalic Function in the Pigeon 75

JOHN L. EMMERSON AND ROBERT C. ANDERSON. Metabolism of Trifluralin in the Rat and Dog 84

O. A. LEVANDER AND C. A. BAUMANN. Selenium Metabolism. V. Studies on the Distribution of Selenium in Rats Given Arsenic 98

O. A. LEVANDER AND C. A. BAUMANN. Selenium Metabolism. VI. Effect of Arsenic on the Excretion of Selenium in the Bile 106

DENNIS R. HOOGLAND, TOM S. MIYA, AND WILLIAM F. BOUSQUET. Metabolism and Tolerance Studies with Chlordiazepoxide-2-^{14}C in the Rat 116

M. J. FREGLY AND L. B. KIER. Effect of Some Substituted Sulfamic Acid Compounds on Development of Renal Hypertension in Rats 124

CURTIS D. KLAASSEN AND GABRIEL L. PLAA. Relative Effects of Various Chlorinated Hydrocarbons on Liver and Kidney Function in Mice 139

D. B. MEYERS, R. M. SMALL, AND R. C. ANDERSON. Toxicology of Nortriptyline Hydrochloride 152

B. L. STEADMAN, R. A. JONES, D. E. RECTOR, AND J. SIEGEL. Effects on Experimental Animals of Long-Term Continuous Inhalation of Nitrogen Dioxide 160

NICHOLAS M. CAMBOSOS AND JOSEPH F. REILLY. Effect of Carbon Tetrachloride on Blood Glutathione Reductase Activity in Rabbits 171

HORACE W. GERARDE AND DOROTHEA B. AHLSTROM. Toxicologic Studies on Hydrocarbons. XI. Influence of Dose on the Metabolism of Mono-*n*-Alkyl Derivatives of Benzene 185

Synopsis of Events at the Fifth Annual Meeting of the Society of Toxicology 191

HENRY F. SMYTH, JR. First Society of Toxicology Merit Award: Remarks of the Awardee .. 194

ERRATUM 198

CONTENTS OF VOLUME 9

NUMBER 2, SEPTEMBER 1966

LOUIS D. BOYAJY AND CLINTON B. NASH. Alteration of Ouabain Toxicity by Cardiac Denervation 199

ROGER P. SMITH AND ROY A. ABBANAT. Protective Effect of Oxidized Glutathione in Acute Sulfide Poisoning 209

HUBERT C. STANTON. Estimation of Grossly Detectable Isoproterenol-Induced Myocardiopathies in Rats Using the Ridit Transformation 218

J. R. DIXON, W. D. WAGNER, T. D. MARTIN, R. G. KEENAN, AND H. E. STOKINGER. Metal Shifts as Early Indicators of Response from Low-Grade Pulmonary Irritation 225

MYRON S. WEINBERG, RICHARD E. GOLDHAMER, AND STEVEN CARSON. Acute Oral Toxicity of Various Drugs in Newborn Rats after Treatment of the Dam during Gestation 234

S. L. FRIESS, R. C. DURANT, AND H. L. MARTIN. Potency Convergence and Crossover in Tertiary vs. Quaternary Tropine Amino Esters 240

D. E. RECTOR, B. L. STEADMAN, R. A. JONES, AND J. SIEGEL. Effects on Experimental Animals of Long-Term Inhalation Exposure to Mineral Spirits 257

C. L. WINEK AND E. V. BUEHLER. Intravenous Toxicity of Zinc Pyridinethione and Several Zinc Salts 269

L. CIMA. Acute and Subacute Toxicity of Isomalic Acid 274

MARTIN SHERMAN AND RAYMOND B. HERRICK. Acute and Subacute Toxicity of Apholate to the Chick and Japanese Quail 279

RAYMOND B. HERRICK AND MARTIN SHERMAN. Subacute Toxicity of Apholate to the Mature Chicken 293

GALE E. DEMAREE, MELVIN H. HEIFFER, DAVID P. JACOBUS, AND ROY L. MUNDY. Depression of the Isolated Guinea Pig Atrium by β-Mercaptoethylamine, β-Adrenergic Blocking Agents, and Metabolic Inhibitors 300

M. BETH MAGGIO AND JAMES M. FUJIMOTO. Effect of Carbon Tetrachloride on Distribution of Sulfobromophthalein in Plasma and Liver of Mice 309

G. ZBINDEN. Modification of the Irritant Effects of Intraperitoneally Administered Phenylbutazone in Rats after Prolonged Treatment with the Same Drug or Phenobarbital 319

A. M. SACKLER, A. S. WELTMAN, AND H. OWENS. Endocrine and Metabolic Effects of Lysergic Acid Diethylamide on Female Rats 324

J. B. KNAAK, JANE M. ELDRIGE, AND L. J. SULLIVAN. Excretion of Certain Polyethylene Glycol Ether Adducts of Nonylphenol by the Rat 331

H. EDERY, GILA PORATH, AND J. ZAHAVY. Passage of 2-Hydroxyiminomethyl-*N*-Methylpyridinium Methanesulfonate to the Fetus and Cerebral Spaces 341

G. W. BRANHAM, JR. AND W. R. WOOLES. Hepatic Lipid Alterations Produced by Doxapram 347

IVAN E. DANHOF, WILLIAM P. BLACKMORE, AND GARY L. UPTON. Effect of Pentazocine on Gastric Emptying and Small Intestinal Propulsive Motility in the Rat 356

K. I. MELVILLE, G. E. JORON, AND D. DOUGLAS. Toxic and Depressant Effects of Alcohol Given Orally in Combination with Glutethimide or Secobarbital 363

HERBERT H REYNOLDS AND KENNETH C. BACK. Effect of Injected Monomethylhydrazine on Primate Performance 376

JOSEF M. PETERS. Caffeine Toxicity in Starved Rats 390

JOHN P. GIBSON, ROBERT E. STAPLES, AND JAMES W. NEWBERNE. Use of the Rabbit in Teratogenicity Studies 398

W. C. DAUTERMAN AND A. R. MAIN. Relationship between Acute Toxicity and *in Vitro* Inhibition and Hydrolysis of a Series of Carbalkoxy Homologs of Malathion 408

CONTENTS OF VOLUME 9

NUMBER 3, NOVEMBER 1966

B. V. RAMA SASTRY. Fission Products: Retention and Elimination of the Parent-Daughter Radionuclide Pair Ruthenium-103—Rhodium-103m by Rats 419

B. V. RAMA SASTRY AND LILLIAN K. OWENS. Fission Products: Retention and Elimination of the Parent-Daughter Radionuclide Pair Barium-140—Lanthanum-140 by Rats 431

JACK E. GRAY, ANDREJS PURMALIS, AND WALTER J. MULVIHILL. Further Toxicologic Studies of Lincomycin 445

JONATHAN P. MILLER, EARL V. CARDINAL, AND L. E. MICHAEL CRAWFORD. Absorption and Excretion of ^{14}C-Labeled Teroxalene Hydrochloride in Experimental Animals and Man 455

JAMES S. WATTS, JAMES OVERPECK, JOSEPH REILLY, AND STEPHEN KROP. Influence of Functional Development on Susceptibility to Convulsions from Paralytic Shellfish Poison 463

RONALD C. SHANK AND GERALD N. WOGAN. Acute Effects of Aflatoxin B_1 on Liver Composition and Metabolism in the Rat and Duckling 468

A. W. HALVERSON, I. S. PALMER, AND P. L. GUSS. Toxicity of Selenium to Post-Weanling Rats 477

LAURENCE C. K. WONG AND VICTOR DISTEFANO. Rapid Accumulation of Renal Fat in Cats after Single Inhalations of Carbon Tetrachloride 485

CLARA H. WILLIAMS AND KEITH H. JACOBSON. An Acylamidase in Mammalian Liver Hydrolyzing the Herbicide 3,4-Dichloropropionanilide 495

HENRY F. SMYTH, JR., AND CARROL S. WEIL. Chronic Oral Toxicity to Rats of a Vinyl Chloride-Vinyl Acetate Copolymer 501

FLORENCE K. KINOSHITA, JOHN P. FRAWLEY, AND KENNETH P. DUBOIS. Quantitative Measurement of Induction of Hepatic Microsomal Enzymes by Various Dietary Levels of DDT and Toxaphene in Rats 505

DUANE G. WENZEL AND RAYMOND Y. P. CHAU. Effect of Adrenergic Blocking Agents on Reduction of Myocardial Aspartate Amino-Transferase Activity by Sympathomimetics 514

HENRY F. SMYTH, JR., CHARLES P. CARPENTER, AND CARROL S. WEIL. Toxicologic Studies on 3,5-Dimethyltetrahydro-1,3,5,2*H*-thiadiazine-2-thione, a Soil Fungicide and Slimicide ... 521

BERNARD L. OSER, KENNETH MORGAREIDGE, MYRON S. WEINBERG, AND MONA OSER. Carcinogenicity Study of Carbarsone 528

JOSEPH F. GARDOCKI, MARGERY E. SCHULER, AND LEONIDE GOLDSTEIN. Reconsideration of the Central Nervous System Pharmacology of Amphetamine. II. Influence of Pharmacologic Agents on Cumulative and Total Lethality in Grouped and Isolated Mice 536

MORRIS V. SHELANSKI, HYMAN R. GITTES, AND SEROUYA BENHAYEM. Three-Generation Study of *N*-Octyl Bicycloheptene Dicarboximide in Rats 555

LAURENCE C. K. WONG AND WILLIAM L. DOWNS. Renal Effects of Potassium Niobate 561

H. B. LOWSMA, R. A. JONES, AND J. A. PRENDERGAST. Effects of Respired Polyvinylpyrrolidone Aerosols in Rats 571

HAROLD C. HODGE, ELLIOTT A. MAYNARD, WILLIAM L. DOWNS, JOHN K. ASHTON, AND LILLIAN L. SALERNO. Tests on Mice for Evaluating Carcinogenicity 583

AUTHOR INDEX 597

SUBJECT INDEX 599